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Exhibit R-2, RDT&E Budget Item Justification: PB 2015 Air Force										Date: March 2014		
Appropriation/Budget Activity 3600: Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development					R-1 Program Element (Number/Name) PE 0305116F / Aerial Targets							
COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
Total Program Element	-	41.040	17.773	8.639	-	8.639	8.483	5.296	5.038	4.972	Continuing	Continuing
675136: Target Systems Development	-	6.786	6.580	3.869	-	3.869	5.301	5.296	5.038	4.972	Continuing	Continuing
675366: QF-16	-	34.254	11.193	4.770	-	4.770	3.182	-	-	-	-	53.399

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

Full-scale and subscale targets assure warfighters weapon systems will perform effectively against real-world enemy fighters and cruise missiles. Aerial Targets provide adherence to Public Law Title 10, Section 2366 "Live Fire/Lethality" developmental/operational test requirements. Target drones are used to validate operational missile/weapon system effectiveness and fighter Operational Flight Program (OFP) updates. Target drones are essential for development testing/operational testing for all air-to-air and surface-to-air missiles, and for the F-22A, F-35, F-18, F-16, F-15, etc., aircraft. The objective is to provide realistic targets for missile testing to enable the development of offensive counter-air systems (air-to-air and surface-to-air) capable of defeating changing enemy airborne threats. This program element funds development, improvements, and updates of full-scale/subscale aerial targets and target control systems to ensure aerial targets represent enemy threat airborne systems. Specialized target payload subsystems are developed for requirements to include but not limited to missile scoring, electronic attack, electronic countermeasures and infrared (IR) countermeasures, radar and IR signature augmentation, and chaff and flare dispensing systems.

This program is in budget activity 7 - RDT&E Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year. It provides aerial targets, target payloads, and target control systems in support of operational and developmental testing.

B. Program Change Summary (\$ in Millions)	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total
Previous President's Budget	50.496	21.186	8.746	-	8.746
Current President's Budget	41.040	17.773	8.639	-	8.639
Total Adjustments	-9.456	-3.413	-0.107	-	-0.107
• Congressional General Reductions	-0.061	-			
• Congressional Directed Reductions	-4.400	-3.413			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-0.943	-			
• Other Adjustments	-4.052	-	-0.107	-	-0.107

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Appropriation/Budget Activity 3600: Research, Development, Test & Evaluation, Air Force I BA 7: Operational Systems Development	R-1 Program Element (Number/Name) PE 0305116F I Aerial Targets	
<u>Change Summary Explanation</u> FY13: Congressional Directed Reduction for QF-16 Late Contract Award, -\$4.052M for Sequestration reduction, -\$0.061 for Congressional General Reductions and -\$0.943M for small business innovative research. FY14: -\$3.413M Congressional reduction for "program decrease."		

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force										Date: March 2014		
Appropriation/Budget Activity 3600 / 7					R-1 Program Element (Number/Name) PE 0305116F / Aerial Targets				Project (Number/Name) 675136 / Target Systems Development			
COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
675136: Target Systems Development	-	6.786	6.580	3.869	-	3.869	5.301	5.296	5.038	4.972	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		
# The FY 2015 OCO Request will be submitted at a later date.												
Note												
In FY13, Digital Radio Frequency Memory (DRFM) funds execute in BPAC 675366.												
A. Mission Description and Budget Item Justification												
Full-scale aerial targets, subscale aerial targets, and companion Target Control Systems (TCS) assure the effectiveness and currency of warfighter weapon systems to combat real-world enemy fighters and cruise missiles. The BQM-167A Air Force Subscale Aerial Target (AFSAT) is a jet powered drone aircraft measuring approximately 20 feet long with a mission to simulate threat aircraft for testing and evaluation of surface-to-air, ship-to-air, or air-to-air missiles. The target accomplishes this mission through the use of optional payloads including chaff and flare, electronic attack, and infrared devices. Funding supports continued improvement of launch phase performance and overall performance enhancement efforts. Funding supports development, improvements, and updates of target control systems and specialized target payload subsystems for requirements to include but not limited to missile scoring, electronic attack and infrared (IR) countermeasures, radar and IR signature augmentation, and chaff and flare dispensing systems. Electronic Attack (EA) pod upgrade provides new techniques and capabilities critical to subscales to realistically emulate foreign threat systems. TCS provides a myriad of systems that together delivers the capability to control and track mission aerial targets (full scale and subscale) and to track a mix of other critical mission participants (to include relay platforms, shooters, and the missile system under test). In this role, TCS ensures an optimum integrated aerial target environment that enhances both weapon system assessments and companion aircrew skills, all the while assuring the full safety of mission participants throughout the conduct and fulfillment of T&E objectives. Funding supports continued improvement (modernization) of TCS capabilities to effectively meet the multi-service T&E demands of current and future warfighter weapon systems.												
This program is in budget activity 7 - RDT&E Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year. It provides aerial targets, target payloads, and target control systems in support of operational and developmental testing.												
B. Accomplishments/Planned Programs (\$ in Millions)									FY 2013	FY 2014	FY 2015	
Title: BQM-167A Development									0.500	0.587	0.447	
Description: Provide enhancements to the radar cross section and infrared signature with accompanying test and integration. Begin development activities for an alternate launch system.												
FY 2013 Accomplishments:												

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force		Date: March 2014		
Appropriation/Budget Activity 3600 / 7	R-1 Program Element (Number/Name) PE 0305116F / Aerial Targets	Project (Number/Name) 675136 / Target Systems Development		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2013	FY 2014	FY 2015
Continued Radar Cross Section (RCS) enhancement/implementation and initiated BQM-167A improvement efforts to include Alternate Launch System (ALS) study. FY 2014 Plans: Continue RCS implementation and BQM-167A improvement efforts. Conduct research and analysis on potential affordable, subscale aerial target platform concepts that represent 4th and 5th generation threat capabilities/characteristics and support user requirements generation and acquisition actions to procure a follow-on vehicle and alternate launch capabilities to the current AFSAT platform. Begin development activities and improve target endurance. FY 2015 Plans: Continue RCS implementation and BQM-167A improvement efforts. Conduct research and analysis on potential affordable, subscale aerial target platform concepts that represent 4th and 5th generation threat capabilities/characteristics and support user requirements generation and acquisition actions to procure a follow-on vehicle and alternate launch capabilities to the current AFSAT platform. Continue development activities and improve target endurance.				
Title: Target Control System Description: Provide system modernization enhancements to Target Control System (Gulf Range Drone Control System, GRDCS) for command and control and tracking of Aerial Targets. FY 2013 Accomplishments: Continued advanced command and destruct systems and other system modernization enhancements to Target Control System for command and control and tracking of Aerial Targets. FY 2014 Plans: Continue system modernization enhancements to Target Control System to include but not limited to GRDCS Modernization and Advanced Command Destruct System RF capabilities upgrade for command and control and tracking of Aerial Targets. FY 2015 Plans: Continue system modernization enhancements to Target Control System for command and control and tracking of Aerial Targets.		6.286	5.993	2.922
Title: Digital Radio Frequency Memory (DRFM) Description: Upgrade existing and develop new electronic attack (EA) pod hardware and software used on QF-4, QF-16, and subscales to emulate adversary EA tactics and techniques. FY 2013 Accomplishments: N/A FY 2014 Plans:		-	-	0.500

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Appropriation/Budget Activity 3600 / 7				R-1 Program Element (Number/Name) PE 0305116F / Aerial Targets				Project (Number/Name) 675136 / Target Systems Development				
B. Accomplishments/Planned Programs (\$ in Millions)										FY 2013	FY 2014	FY 2015
N/A												
FY 2015 Plans: Upgrade existing and develop new electronic attack (EA) pod hardware and software used on QF-4, QF-16, and subscales to emulate adversary EA tactics and techniques.												
Accomplishments/Planned Programs Subtotals										6.786	6.580	3.869
C. Other Program Funding Summary (\$ in Millions)												
Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost	
• APAF:BA04: Line Item # 10TRGT: Target Drones	109.537	123.669	98.576	-	98.576	122.045	148.971	156.587	160.047	Continuing	Continuing	
• APAF: BA06: Line Item # 000999: Initial Spares/Repair Parts	0.485	0.376	0.653	-	0.653	0.618	0.573	0.584	0.595	Continuing	Continuing	
• APAF: BA07: Line Item # 000074: War Consumables	2.026	0.040	5.212	-	5.212	4.466	4.548	4.635	4.722	Continuing	Continuing	
• APAF: BA07: Line Item # 000075: Other Production Charges	4.988	9.718	21.307	-	21.307	7.979	8.076	8.378	8.483	Continuing	Continuing	
• OPAF: BA03: Line Item # 834190: Combat Training Ranges	0.794	2.492	3.054	-	3.054	2.143	2.709	2.521	2.566	Continuing	Continuing	
Remarks												
D. Acquisition Strategy												
The AFSAT acquisition strategy is sole source follow-on with fixed price and time and materials contracts. The Target Control System acquisition strategy includes several small projects to provide enhancements to Target Control System (to include GRDCS) and will be accomplished with other government agencies and contracts as needed.												
E. Performance Metrics												
Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.												

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Exhibit R-4, RDT&E Schedule Profile: PB 2015 Air Force

Date: March 2014

Appropriation/Budget Activity
3600 / 7

R-1 Program Element (Number/Name)
PE 0305116F / Aerial Targets

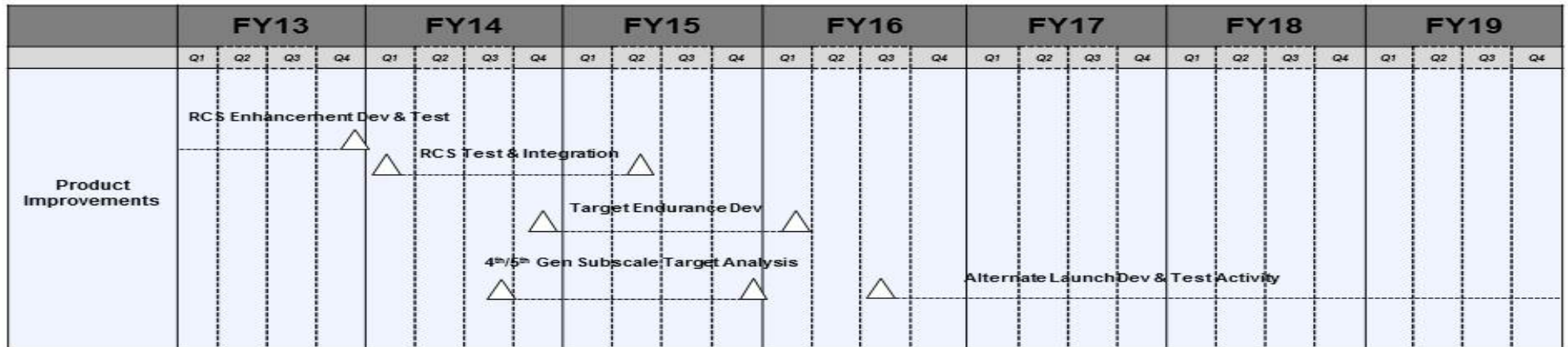
Project (Number/Name)
675136 / Target Systems Development



AFSAT Product Improvement Schedule



War-Winning Capability...On Time, On Cost



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Exhibit R-4, RDT&E Schedule Profile: PB 2015 Air Force

Date: March 2014

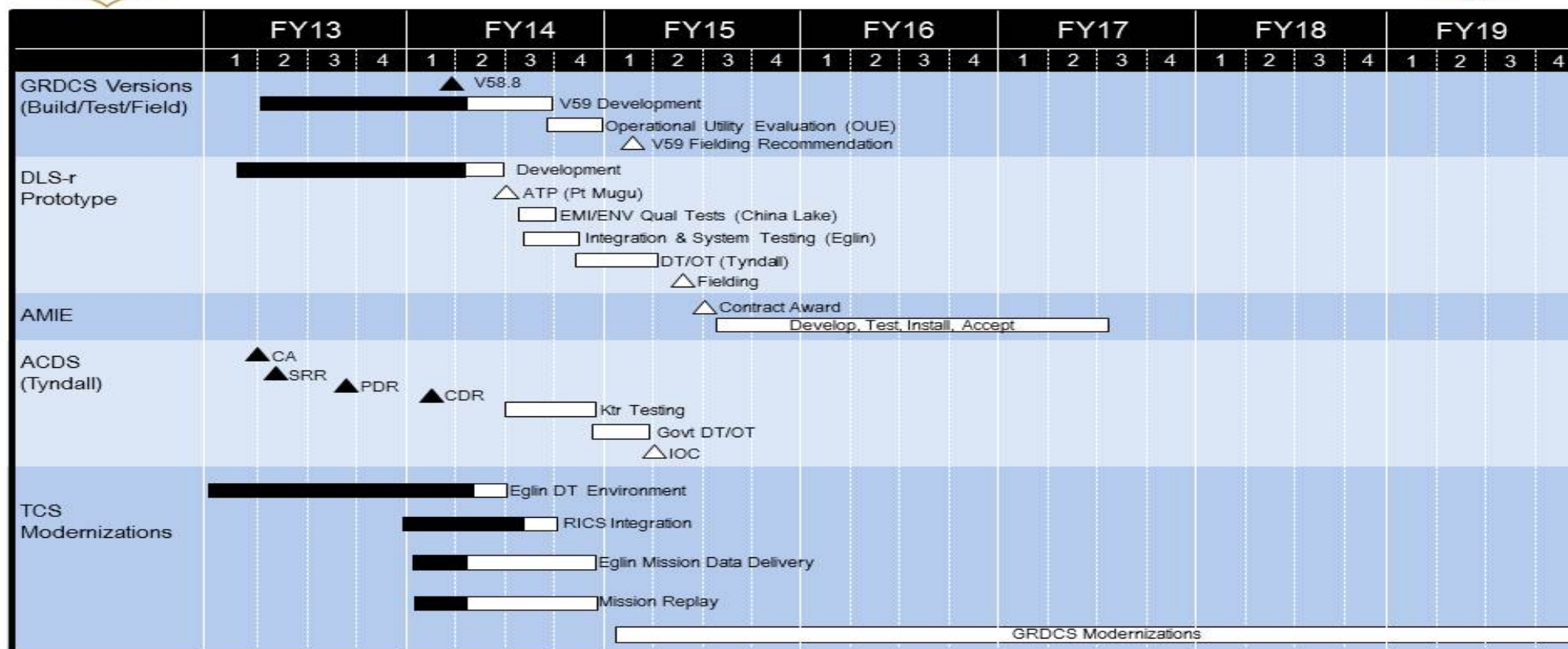
Appropriation/Budget Activity
3600 / 7

R-1 Program Element (Number/Name)
PE 0305116F / <i>Aerial Targets</i>

Project (Number/Name) 675136 / <i>Target Systems Development</i>
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TCS Master Schedule



Updated 31-Jan-14 1

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Exhibit R-2A, RDT&E Project Justification: PB 2015 Air Force										Date: March 2014		
Appropriation/Budget Activity 3600 / 7					R-1 Program Element (Number/Name) PE 0305116F / Aerial Targets				Project (Number/Name) 675366 / QF-16			
COST (\$ in Millions)	Prior Years	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO #	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
675366: QF-16	-	34.254	11.193	4.770	-	4.770	3.182	-	-	-	-	53.399
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

The FY 2015 OCO Request will be submitted at a later date.

A. Mission Description and Budget Item Justification

Full-scale targets assure warfighters weapon systems perform effectively against real-world enemy fighters and cruise missiles. Aerial Targets support adherence to Public Law Title 10, Section 2366, which requires major systems and munitions programs to conduct survivability and lethality testing before full-rate production. The Aerial Targets program provides drones to satisfy "Live Fire/Lethality" developmental/operational test requirements. Target drones are used to validate operational missile/weapon system effectiveness and fighter operational flight program (OFP) updates. Target drones are required for developmental/operational testing for all air-to-air and surface-to-air missiles, and for the F-22A, F-35, F-18, F-16, F-15, etc., aircraft. The United States Air Force's (USAF) Air Superiority Modernization/ Mission Area Plan has identified aerial targets as a capability shortfall; the QF-16 program will fulfill this requirement. Funding supports continued development of the follow-on full-scale aerial target (QF-16) and simulators, development, improvements, and updates of target control systems and specialized target payload subsystems for requirements such as: missile scoring, electronic attack and infrared (IR) countermeasures, radar and IR signature augmentation, and chaff and flare dispensing systems. Electronic Attack (EA) pod upgrade provides new techniques and capabilities critical to QF-16s to realistically emulate foreign threat systems.

This program is in budget activity 7 - RDT&E Operational System Development because this budget activity includes development efforts to upgrade systems that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year. It provides aerial targets, target payloads, and target control systems in support of operational and developmental testing.

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2013	FY 2014	FY 2015
Title: QF-16 Development Program	22.705	3.775	3.579
Description: QF-16 Development Program			
FY 2013 Accomplishments: Continued design/development/integration of drone package into F-16; efforts included design/development of drone peculiar equipment, build/install drone hardware prototypes, contractor system test and evaluation, threat realism analysis, target control system integration and support of government development testing and operational testing (DT/OT).			
FY 2014 Plans: Finalization of EMD development contract, drone package integration, threat realism improvements and DT/OT.			
FY 2015 Plans:			

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Appropriation/Budget Activity 3600 / 7				R-1 Program Element (Number/Name) PE 0305116F / Aerial Targets				Project (Number/Name) 675366 / QF-16			
B. Accomplishments/Planned Programs (\$ in Millions)									FY 2013	FY 2014	FY 2015
Development of QF-16 two seat trainer and continued threat realism improvements to include but not limited to radar cross section (RCS) reduction and upward/forward firing IR countermeasures.											
Title: F-16 Regeneration (QF-16) Description: F-16 Regeneration FY 2013 Accomplishments: Continued support of F-16 aircraft withdrawal and refurbishment, engine maintenance and refurbishment, acquisition of support equipment, programmatic efforts in support of QF-16 development program. Completed first phase of testing at Tyndall AFB which culminated in successful Not Under Live Local Operator (NULLO) mission. FY 2014 Plans: Continue support of Government DT/OT & programmatic efforts in support of QF-16 development program. FY 2015 Plans: Two seat F-16 aircraft withdrawal and refurbishment.									8.049	7.418	1.191
Title: Digital Radio Frequency Memory (DRFM) Description: Digital Radio Frequency Memory (DRFM) FY 2013 Accomplishments: Upgraded existing and developed new electronic attack (EA) pod hardware and software used on QF-4, QF-16, and subscales to emulate adversary EA tactics and techniques. FY 2014 Plans: N/A FY 2015 Plans: N/A									3.500	-	-
Accomplishments/Planned Programs Subtotals									34.254	11.193	4.770
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost
• APAF: BA 04: Line Item # 10TRGT: Target Drones	109.537	123.669	98.576	-	98.576	122.045	148.971	156.587	160.047	Continuing	Continuing
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Appropriation/Budget Activity 3600 / 7				R-1 Program Element (Number/Name) PE 0305116F / Aerial Targets				Project (Number/Name) 675366 / QF-16				
C. Other Program Funding Summary (\$ in Millions)												
Line Item	FY 2013	FY 2014	FY 2015 Base	FY 2015 OCO	FY 2015 Total	FY 2016	FY 2017	FY 2018	FY 2019	Cost To Complete	Total Cost	
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• APAF: BA 07: Line Item # 000075: Other Production Charges	4.988	9.718	21.307	-	21.307	7.979	8.076	8.378	8.483	Continuing	Continuing	
• OPAF: BA 03: Line Item # 834190: Combat Training Ranges	0.794	2.492	3.054	-	3.054	2.143	2.709	2.521	2.566	Continuing	Continuing	
Remarks												
D. Acquisition Strategy												
The QF-16 acquisition strategy is a fixed price incentive firm, time and materials development contract with fixed price production options (Lots 1-5).												
E. Performance Metrics												
Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.												

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Exhibit R-4, RDT&E Schedule Profile: PB 2015 Air Force

Date: March 2014

Appropriation/Budget Activity
3600 / 7

R-1 Program Element (Number/Name)
PE 0305116F / Aerial Targets

Project (Number/Name)
675366 / QF-16



QF-16 Master Schedule



AAC/EBYA

